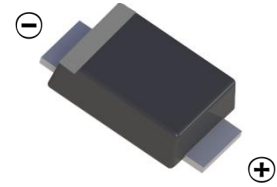
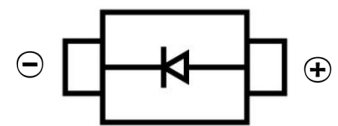


**FAST RECOVERY RECTIFIER DIODE**
**FEATURES**

- Low Reverse voltage leakage current
- Glass passivated junction
- High forward surge current capability
- Low forward voltage drop
- Surface Mount device


**SMAF**
**MECHANICAL DATA**

- Case: SMAF
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.027 grams (approximate)


**MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)**

Parameter	Symbol	RS3AF	RS3BF	RS3DF	RS3GF	RS3JF	RS3KF	RS3MF	Unit
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
DC Blocking Reverse Voltage	V <sub>R</sub>	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Maximum Average Forward Rectified Current	I <sub>F</sub>	3							A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I <sub>FSM</sub>	100							A
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	20							°C/W
Reverse Recovery Time(@I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A)	t <sub>rr</sub>	150				250	500	nS	
Junction Temperature	T <sub>J</sub>	-55 ~+150							°C
Storage Temperature	T <sub>STG</sub>	-55 ~+150							°C

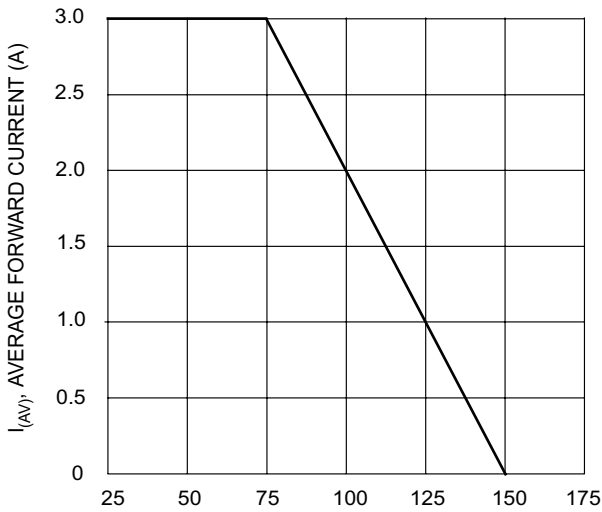
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)**

Parameter	Symbol	RS3AF	RS3BF	RS3DF	RS3GF	RS3JF	RS3KF	RS3MF	Unit	Conditions
Maximum Forward voltage	V <sub>F</sub>	1.3							V	I <sub>F</sub> =3A
Maximum Reverse current	I <sub>R</sub>	5							uA	V=V <sub>R</sub> @T <sub>A</sub> =25°C
Maximum Reverse current	I <sub>R</sub>	500							uA	V=V <sub>R</sub> @T <sub>A</sub> =100°C
Type Diode capacitance	C <sub>D</sub>	15							pF	V <sub>R</sub> =4V <sub>DC</sub> , f=1MHz

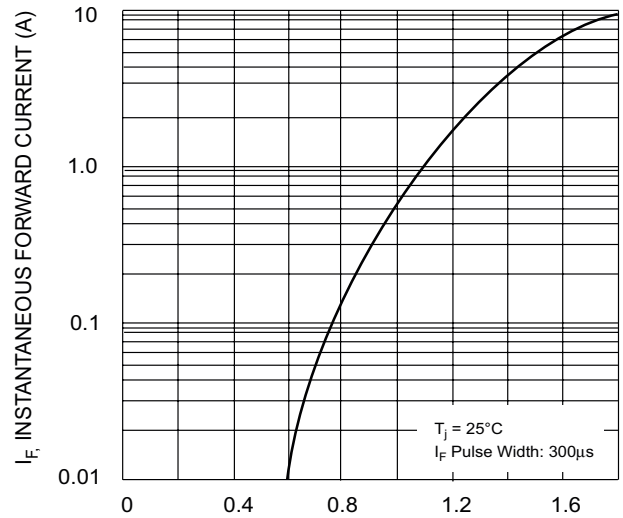
Note: Mounted on P.C. Board with 8.0mm<sup>2</sup> land area

FAST RECOVERY RECTIFIER DIODE

Typical Characteristics



$T_T$ , TERMINAL TEMPERATURE ( $^{\circ}C$ )  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics

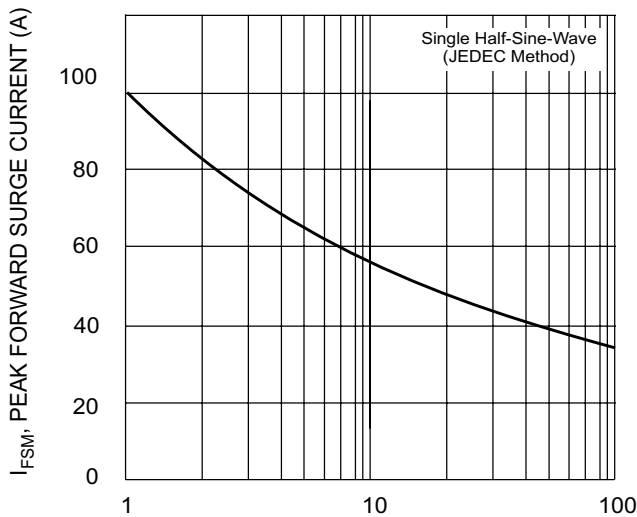


Fig. 3 Forward Surge Current Derating Curve

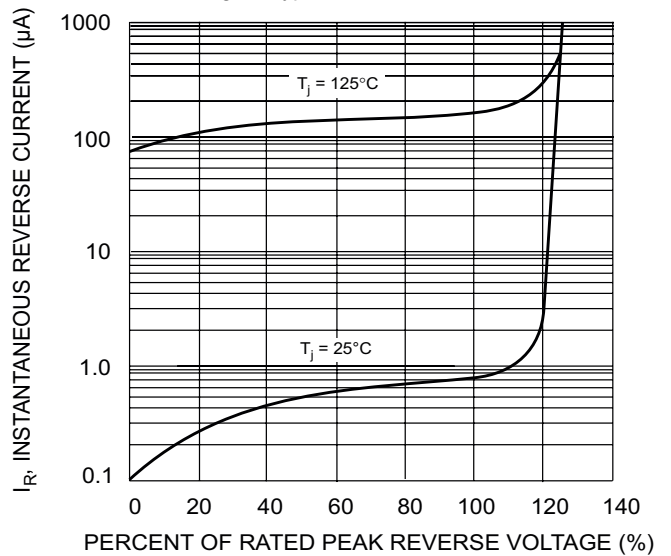
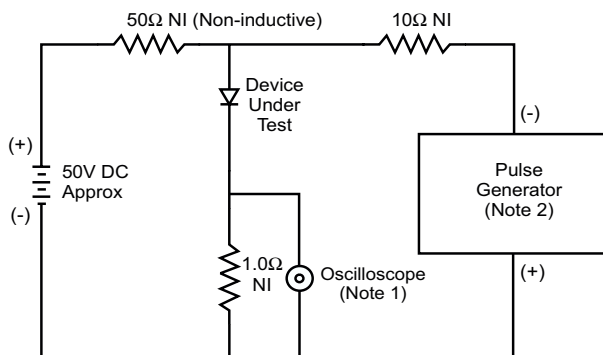
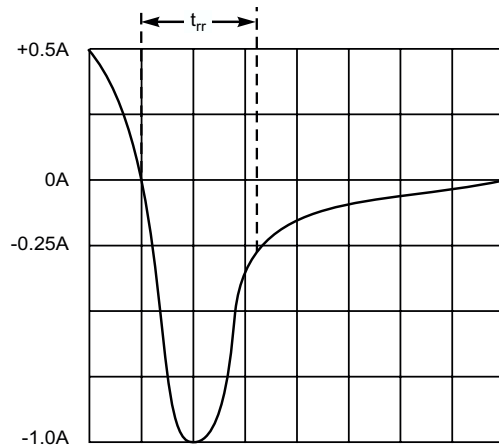


Fig. 4 Typical Reverse Characteristics



- Notes:  
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.  
2. Rise Time = 10ns max. Input Impedance = 50Ω.

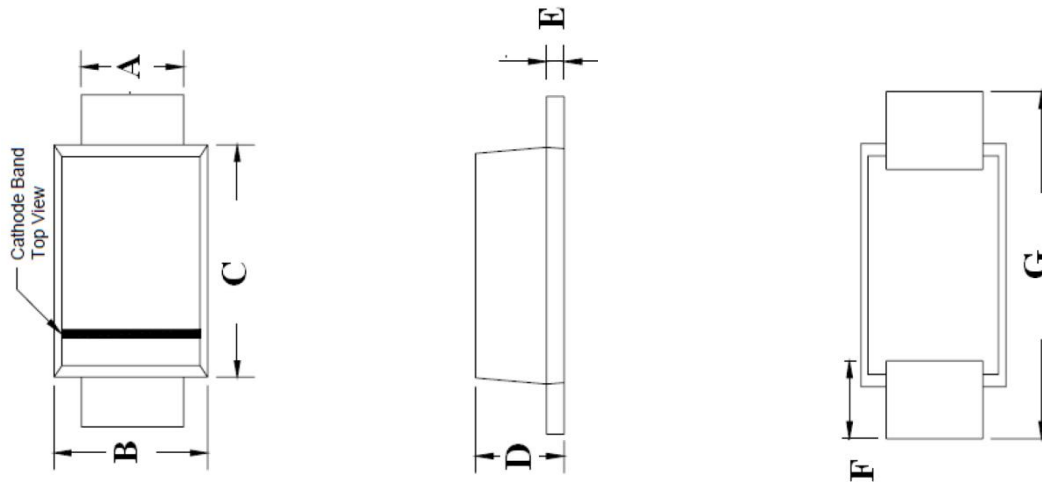


Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

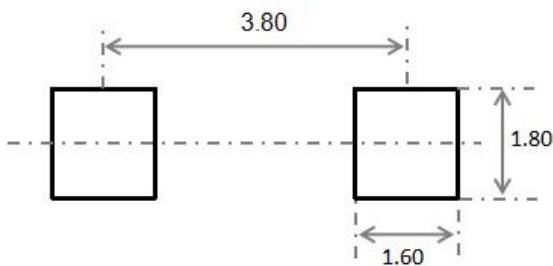
FAST RECOVERY RECTIFIER DIODE

**SMAF Package Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.60	0.051	0.063
B	2.40	2.80	0.094	0.110
C	3.25	3.65	0.128	0.144
D	1.10	1.40	0.043	0.055
E	0.15	0.25	0.006	0.010
F	0.70	1.20	0.028	0.047
G	4.40	4.90	0.173	0.193

**SMAF Suggested Pad Layout**



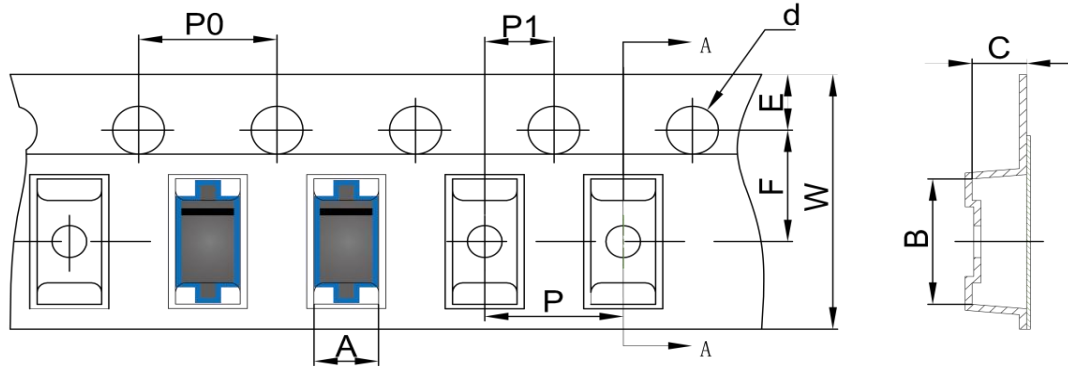
**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

FAST RECOVERY RECTIFIER DIODE

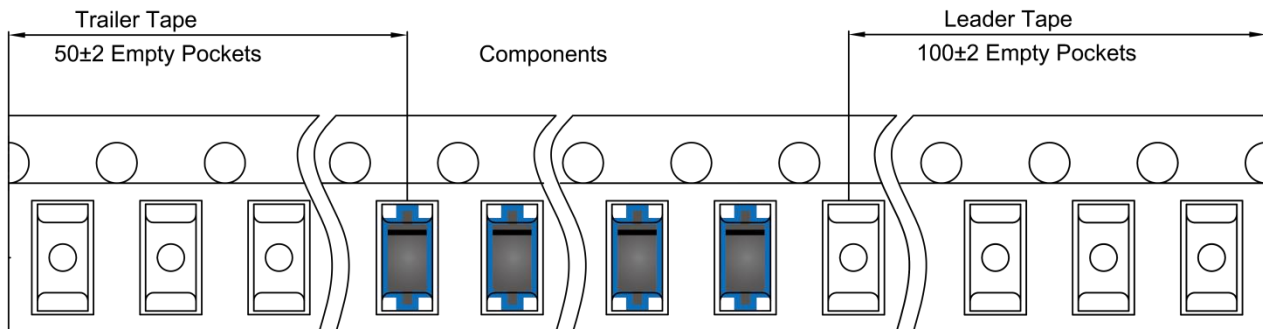
**SMAF Tape and Reel**

**SMAF Embossed Carrier Tape**

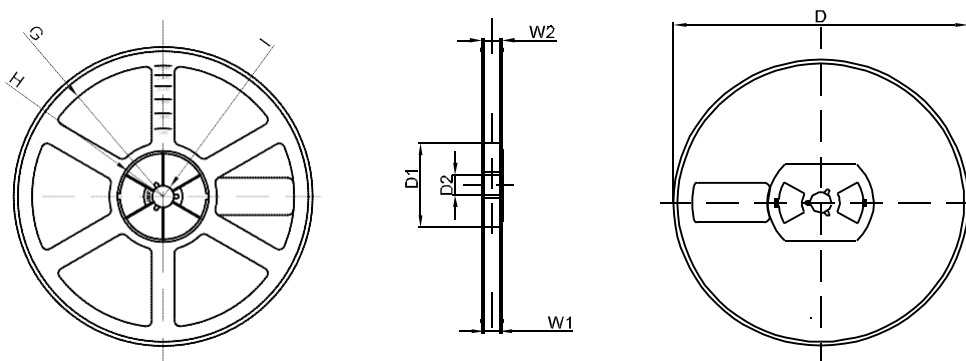


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMAF	2.79	5.35	1.48	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SMAF Tape Leader and Trailer**



**SMAF Reel**



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1